CLAIMS:

1. A method of transcoding a primary encoded signal (S1) comprising a sequence of pictures, into a secondary encoded signal (S2), said method of transcoding comprising at least the steps of:

– decoding a current picture of the primary encoded signal, said decoding step comprising a dequantizing sub-step (12) for producing a first transformed signal (R1),
– encoding, following the decoding step, for obtaining the secondary encoded signal, said encoding step comprising a quantizing sub-step (13),

characterized in that said method of transcoding further comprises a filtering step between the dequantizing sub-step and the quantizing sub-step.

2. A method of transcoding as claimed in claim 1, comprising a step of predicting a transformed motion-compensated signal (Rmc) from a transformed encoding error (Re) derived from the encoding step, said prediction step being situated between the encoding and decoding steps, characterized in that the filtering step is a temporal filtering step (21) for receiving the transformed motion-compensated signal and the first transformed signal (R1) and for delivering a filtered transformed signal (Rf) to the quantizing sub-step.

3. A method of transcoding as claimed in claim 2, characterized in that the temporal filtering step (21) is intended to use a recursive filter such as:

$$Rf[i] = (1 - \alpha[i])\,(R1[i] + Rmc[i]),$$

where Rf[i], R1[i] and Rmc[i] are transformed coefficients comprised in the transformed signals (Rf,R1,Rmc) and $\alpha[i]$ is a filter coefficient comprised between 0 and 1.

4. A method of transcoding as claimed in claim 1, comprising a step of predicting a transformed motion-compensated signal (Rmc) from a transformed encoding error (Re) derived from the encoding step, said prediction step being situated between the encoding and decoding steps, characterized in that the filtering step is a spatial filtering step (31) for receiving the first transformed signal (R1) and for producing a filtered transformed

signal (Rf), said filtered transformed signal and the transformed motion-compensated signal being delivered to the quantizing sub-step (13).

5. A method of transcoding as claimed in claim 1, comprising a step of predicting a transformed motion-compensated signal (Rmc) from a transformed encoding error (Re) derived from the encoding step, said prediction step being situated between the encoding and decoding steps, characterized in that the filtering step is a spatial filtering step (41) for receiving the transformed motion-compensated signal and the first transformed signal (R1) and for delivering a filtered transformed signal (Rf) to the quantizing sub-step (13), the encoding step further comprising an inverse filtering sub-step (42).

6. A method of transcoding as claimed in claim 1, comprising a step of predicting a transformed motion-compensated signal (Rmc) from a transformed encoding error (Re) derived from the encoding step, said prediction step being situated between the encoding and decoding steps, characterized in that the filtering step is a spatial filtering step (51) for receiving the transformed motion-compensated signal and the first transformed signal (R1) and for delivering a filtered transformed signal (Rf) to the quantizing sub-step (13), said spatial filtering step being only applied to intra-coded macroblocks contained in the current picture.

7. A method of transcoding as claimed in claim 6, characterized in that it further comprises a detection step for giving a label to a current macroblock, the spatial filtering step being adapted to apply a filter to the current macroblock as a function of said label.

8. A device for transcoding a primary encoded signal (S1) comprising a sequence of pictures, into a secondary encoded signal (S2), said device comprising at least:

- a decoding unit for decoding a current picture of the primary encoded signal, said decoding unit comprising a dequantizing circuit (12) for producing a first transformed signal (R1),
- an encoding unit for obtaining the secondary encoded signal, said encoding unit comprising a quantizing circuit (13),

characterized in that said transcoding device further comprises a filter circuit between the dequantizing circuit and the quantizing circuit.

9. A transcoding device as claimed in claim 8, comprising a prediction unit for predicting a transformed motion-compensated signal (Rmc) from a transformed encoding error (Re) derived from the encoding unit, said prediction unit being situated between the encoding unit and the decoding unit, characterized in that the filter circuit is a temporal filter circuit (21) for receiving the transformed motion-compensated signal and the first transformed signal (R1) and for delivering a filtered transformed signal (Rf) to the quantizing circuit (13).

10. A transcoding device as claimed in claim 8, comprising a prediction unit for predicting a transformed motion-compensated signal (Rmc) from a transformed encoding error (Re) derived from the encoding unit, said prediction unit being situated between the encoding unit and the decoding unit, characterized in that the filter circuit is a spatial filter circuit (31) for receiving the first transformed signal (R1) and for producing a filtered transformed signal (Rf), said filtered transformed signal and the transformed motion-compensated signal being delivered to the quantizing circuit (13).

11. A transcoding device as claimed in claim 8, comprising a prediction unit for predicting a transformed motion-compensated signal (Rmc) from a transformed encoding error (Re) derived from the encoding unit, said prediction unit being situated between the encoding unit and the decoding unit, characterized in that the filter circuit is a spatial filter circuit (41) for receiving the transformed motion-compensated signal and the first transformed signal (R1) and for delivering a filtered transformed signal (Rf) to the quantizing circuit (13), the encoding unit further comprising an inverse filter circuit (42).

12. A transcoding device as claimed in claim 8, comprising a prediction unit for predicting a transformed motion-compensated signal (Rmc) from a transformed encoding error (Re) derived from the encoding unit, said prediction unit being situated between the encoding and decoding units, characterized in that the filter circuit is a spatial filter circuit (51) for receiving the transformed motion-compensated signal and the first transformed signal (R1) and for delivering a filtered transformed signal (Rf) to the quantizing circuit (13), said spatial filter circuit being only applied to intra-coded macroblocks contained in the current picture.

13. A transcoding device as claimed in claim 12, characterized in that it further comprises a detection circuit for giving a label to a current macroblock, the spatial filter circuit being adapted to apply a filter to the current macroblock as a function of said label.

14. A computer program product for a digital video recorder, which computer program product comprises a set of instructions, which, when loaded into said digital video recorder, causes the digital video recorder to carry out the method as claimed in claims 1 to 7.

15. A computer program product for a set-top-box ,which computer program product comprises a set of instructions, which, when loaded into said set-top-box, causes the set-top-box to carry out the method as claimed in claims 1 to 7.